

AMENDMENTS TO THE CLAIMS:

The listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently amended) A methodMethod for producing a thermal paper with comprisinga carrier substrate, an intermediate pigment coatlayer, a thermal reaction layer and, optionally, one or several—more additional intermediate coats—layers and~~[[/or]]~~ top coatslayers, wherein the intermediate pigment coatlayer is formed via~~by means of~~ the curtain coating method with an aqueous application suspension containing pigments, binding agents and, optionally, additional application additives and containing calcined kaolin, characterized in that an aqueous application suspension containing~~with~~ calcined kaolin with a particle size of 0.1 to 10 μ m and havinga solid matter contents of approximately~~about~~ 25 to 75% by weight is applied by means of the curtain-coating method at an operating speed of at least 500 m/min, wherein the application weight of the aqueous application suspension containing the calcined kaolin is adjusted to up to 30 g/m², based on dry substance, and simultaneously online, or offline in a separate coating method, the thermal reaction layer is formed and dried on the one or more intermediate pigment layers by means of the curtain coating method, the thermal reaction layer is formed and dried on the one or more intermediate pigment layers by means one of the curtain coating, a roller application method, a roller spread coating method, and an air brush method, wherein the curtain coating method includes a curtain head having a clear exit gap width adjusted to 0.1 to 1 mm, and the nozzle throughputs for the respective application suspension are adjusted to 0.3 to 15.1 cm³/(cm working width x s), the curtain spreader head being adjustable to a single or multiple gap, and dried.
2. (Currently amended) A ~~[[M]]~~method according to Claim 1, characterized in that the solid matter contents of the application suspension lies between approximately~~about~~ 35 and 60 % by weight.
3. (Currently amended) A ~~[[M]]~~method according to Claim 1, characterized in that the

drop heights of the aqueous application suspension containing the calcined kaolin during ~~is adjusted during execution of the curtain-coating method~~ is adjusted to about ~~approximately 5 to 34 cm, in particular to approximately 8 to 20 cm.~~

4. (Currently amended) A ~~[[M]]~~ method according to Claim 1, characterized in that the application suspension containing the calcined kaolin is adjusted to a viscosity of about ~~approximately 150 to 1500 mPas (Brookfield, 100 U/min, 25°C), in particular of~~ approximately 250 to 900 mPas.
5. (Currently amended) A ~~[[M]]~~ method according to Claim 1, characterized in that the surface tension of the application suspension containing the calcined kaolin is adjusted to approximately about 23 to 60 mN/m, in particular to approximately 27 to 40 mN/m (static ring method according to Du Noüy).
6. (Currently amended) A ~~[[M]]~~ method according to Claim 1, characterized in that a conventional ~~as carrier substrate a customary carrier paper, a synthetic carrier paper and/or a plastic [[foil]] material film~~ is used as the carrier substrate, with the paper carrier having a basis weight of about approximately 40 to 120 g/m².
7. (Currently amended) A ~~[[M]]~~ method according to Claim 6, characterized in that the paper carrier contains for stabilization of dimensions synthetic fibers in addition to natural cellulose fibers, with the long fiber percentage amounting up to approximately about 40% by weight, in particular to approximately 5 to 40% by weight, and the short fiber percentage amounting to about approximately 60 to 95% by weight, in particular to approximately 60 to 80% by weight.
8. (Currently amended) A ~~[[M]]~~ method according to Claim 1, characterized in that into the application suspension containing the calcined kaolin are incorporated customary additives in the form of processing auxiliaries, in particular in form of surface-active substances, retention auxiliaries and/or ~~rheology~~ rheological auxiliaries.

9. (Currently amended) A ~~[[M]]~~method according to Claim 8, characterized in that the surface-active substances are employed in the form of C₂-C₁₂-di-alkylsulfosuccinate-alkali salts or siloxanes, the retention auxiliaries in the form of carboxy-methyl celluloses or poly-acrylamides and/or the rheology auxiliaries in the form of higher molecular, water-soluble starch derivatives, carboxy-methyl celluloses, sodium alginates, polyvinylalcohols or poly(meth)acrylates.
10. (Currently amended) A ~~[[M]]~~method according to Claim 1, characterized in that the calcined kaolin of the aqueous application suspension presents a particle size of about ~~approximately~~ 0.1 to 10 μm , ~~in particular of approximately 0.1 to 2 μm .~~
11. (Currently amended) A ~~[[M]]~~method according to Claim 1, characterized in that the aqueous application suspension containing calcined kaolin contains a binding agent selected from ~~in the form of~~ water-soluble starches, starch derivatives, hydroxyl-ethyl-celluloses, polyvinyl-alcohols, modified polyvinyl-alcohols, sodium-polyacrylates, acrylamide-(meth)acrylate-co-polymers, acrylamide-acrylate-methacrylate-terpolymers, alkali salts of styrene-maleic anhydride-co-polymers, alkali salts of ethylene-maleic anhydride-co-polymers and/or lattices such as poly-acrylate, styrene-butadien-co-polymers, polyurethanes, acrylate-butadien-co-polymers, polyvinyl-acetate and~~[[/or]]~~ acryl-nitril-butadien-co-polymers.
12. (Currently amended) A ~~[[M]]~~method according to Claim 1, characterized in that the application weight of the aqueous application suspension containing the calcined kaolin is adjusted to up to ~~approximately~~ about 30 g/m², relative to the dry substance, ~~in particular to up to approximately 25 g/m².~~
13. (Currently amended) A ~~[[M]]~~method according to Claim 12, characterized in that the application weight of the aqueous application suspension containing the calcined kaolin is adjusted to up to about ~~approximately~~ 2 to 20 g/m², relative to the dry substance, ~~in particular to approximately 4 to 8 g/m².~~

14. (Currently amended) A ~~[[M]]~~ method according to Claim 1, characterized in that on the one or more intermediate pigment ~~coat~~ layers, optionally after drying, there are formed one or ~~several~~ more additional intermediate pigment coats by means of the curtain-coating method.
15. (Cancelled)
16. (Currently amended) A ~~[[M]]~~ method according to Claim 14 ~~[[15]]~~, characterized in that into the aqueous application suspension utilized for forming the thermal reaction layer are incorporated color developers, color formers, sensitizing melt auxiliaries, anti-aging means, binding agents and customary additives, such as in particular slip additives, rheological auxiliaries, optical brighteners and/or fluorescent substances.
17. (Currently amended) A ~~[[M]]~~ method according to Claim 14 ~~[[15]]~~, characterized in that the drop height of the aqueous application suspension for the formation of the thermal reaction coat is adjusted to ~~approximately~~ about 5 to 35 cm during execution of the curtain-coating method; ~~in particular to approximately 8 to 20 cm.~~
18. (Currently amended) A ~~[[M]]~~ method according to Claim 14 ~~[[15]]~~, characterized in that the application suspension for the formation of the thermal reaction layer is adjusted to a viscosity of about ~~approximately~~ 150 to 1500 mPas (Brookfield, 110 U/min, 25° C) ~~in particular to approximately 250 to 900 mPas.~~
19. (Currently amended) A ~~[[M]]~~ method according to Claim 14 ~~[[15]]~~, characterized in that the surface tension of the application suspension for the formation of the thermal reaction layer is adjusted to about ~~approximately~~ 23 to 60 mN/m; ~~in particular to approximately 30 to 40 mN/m (statical ring method according to Du Noüy).~~
20. (Currently amended) A ~~[[M]]~~ method according to Claim 14 ~~[[15]]~~, characterized in that the dried thermal reaction layer is adjusted using customary smoothing means to a Bekk smoothness of ~~approximately~~ about 100 to 1200 s, ~~in particular of approximately 300 to~~

700-s, measured according to DIN 53101.

21. (Currently amended) A ~~[[M]]~~ method according to Claim 14 ~~[[15]]~~, characterized in that the aqueous application suspension utilized for the formation of the thermal reaction coat contains, in addition, further pigments.
22. (Currently amended) A ~~[[M]]~~ method according to Claim 21, characterized in that the pigments represent inorganic extender pigments, in particular clays, magnesium carbonates, sodium aluminum silicates, aluminum oxides, aluminum silicate, silicic acid, siliceous earth, magnesium silicates, titanium dioxides, calcium carbonates of synthetic as well as natural origin.
23. (Currently amended) A ~~[[M]]~~ method according to Claim 22, characterized in that the extender pigments have an average particle size of about ~~approximately~~ 0.1 to 10 μm , ~~in particular approximately [[0,1]] to 2 μm .~~
24. (Currently amended) A ~~[[M]]~~ method according to Claim 14, characterized in that on the thermal reaction layer, additional layers are formed on-line or off-line as protective coat and/or as coat to enhance the capability of being printed on.
25. (Currently amended) ~~[[M]]~~ method according to Claim 1, characterized in that the curtain-coating method is operated at a speed of more than 750 m/min.
26. (Currently amended) ~~[[M]]~~ method according to Claim 25, characterized in that the curtain-coating method is operated at a speed of at least ~~approximately~~ about 1000 m/min, ~~in particular approximately 1500 m/min.~~
27. (Cancelled)
28. (New) A method of according to Claim 1, wherein said curtain coating method includes a curtain head having a clear exit gap width adjusted to about 0.2 to 0.6 mm.

29. (New) A method according to Claim 1, wherein said nozzle throughputs for the respective application suspension are adjusted to about 0.5 to 5.0 cm³/(cm working width x s).
30. (New) A method according to Claim 3, wherein the drop heights of the aqueous application suspension containing the calcined kaolin is adjusted to a viscosity of about 8 to 20 cm.
31. (New) A method according to Claim 4, wherein the application suspension containing the calcined kaolin is adjusted to a viscosity of about 250 to 900 mPas.
32. (New) A method according to Claim 5, wherein the surface tension of the application suspension containing the calcined kaolin is adjusted to about 27 to 40 mN/m.
33. (New) A method according to Claim 7, wherein the long fiber percentage amounts up to about 5 to 40% by weight.
34. (New) A method according to Claim 7, wherein the short fiber percentage amount up to about 60 to 80% by weight.
35. (New) A method according to Claim 10, wherein the calcined kaolin of the aqueous application suspension presents a particle size of about 0.1 to 2 μm .
36. (New) A method according to Claim 13, wherein the application weight of the aqueous application suspension containing the calcined kaolin is adjusted to up to about 4 to 8 g/m², relative to the dry substance.
37. (New) A method according to Claim 14, wherein the surface tension of the application suspension for the formation of the thermal reaction layer is adjusted to about 30 to 40 mN/m.

39. (New) A method according to Claim 20, wherein the dried thermal reaction layer is adjusted using customary smoothing means to a Black smoothness of about 300 to 700 s.
40. (New) A method according to Claim 26, wherein the curtain-coating method is operated at a speed of at least about 1500 m/min.